



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/675,220	09/29/2000	Minoru Nakano	3094/FLK	1221
7590 05/06/2004				
KATTEN, MUCHIN, ZAVIS, ROSENMAN		EXAMINER		
575 MADISON AVENUE		EVERHART, CARIDAD		
NEW YORK, NY 10022-2585		ART UNIT PAPER NUMBER		
		2825		

DATE MAILED: 05/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/675,220

Applicant(s)

NAKANO ET AL.

Examiner

Caridad M. Everhart

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2-3-2004
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11, 15-17 and 22-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 15-17 and 22-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6-5-03</u> . | 6) <input type="checkbox"/> Other: _____ |

Applicant's arguments with respect to claims 1, 11, 15-17, 22-27 have been considered but are moot in view of the new ground(s) of rejection.

Applicant has argued persuasively with respect to the prior art of record, and the rejections made in the last Office Action have been withdrawn. However, newly found prior art has been applied as follows. Applicant's arguments included that power ratios for two or more selected temperatures are predetermined and power ratios are then determined. However, claim one recites "at least one", which would include one. This argument, however, does not detract from the persuasiveness of applicant's other arguments with respect to the rejections which have been withdrawn.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

Claims 1-10, 15-17, 22-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. ("Anderson")(US 6,064,799) .

Anderson discloses a method in which the wafer temperature is determined by either one or by two pyrometers in order to use computer feedback control(col. 4, lines 20-35 and col. 6, lines 58-67) and the power ratios to the heaters are independently controlled by computer (col. 4, lines 14-21 and col. 5, lines 43-54 , col. 7, lines 40-44, and col. 8, lines 55-58). The look up tables are predetermined by a calibration step, in which the disclosure that the temperatures of a test wafer are determined for a plurality of radial locations on the test wafer and this implied temperature determination at the center and the edges of the wafer, as various radial locations implies this(Col. 5, lines 43-48)is

interpreted to imply that there are more temperature sensors for the calibration step than for the process runs, in which there are either two or one temperature sensor, as indicated in the portions of Anderson already cited. The temperatures in the look-up tables are interpreted to be the target temperatures. Anderson indicates that there may be different temperature targets at the beginning and end of a process, so that these are interpreted as being the two temperatures(col. 4, lines 44-54).

Anderson is silent with respect to the details of calculations involved.

Although Anderson is silent with respect to the calculations involved, it is well known in the art how to calculate power ratios and how to interpolate the values of the data and the calculated power ratios in order to obtain the control of the heating lamps carried out by computer as taught by Anderson. It would have been obvious to one of ordinary skill in the art at the time of the invention that the interpolation of data and the calculation of power ratios would have been carried out in computer analysis in the process taught by Anderson, because these are implied in the disclosure made by Anderson and are well known in the art.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson as applied to claim 1 above, and further in view of Halpin, et al. ("Halpin")(US 6,113,702) .

Anderson is silent with respect to the rotating susceptor.

Halpin is relied upon for its teaching of the details of a rotating susceptor (col. 4, lines 3-10).

Art Unit: 2825

It would have been obvious to one of ordinary skill in the art to have combined the rotating susceptor taught by Halpin with the disclosure made by Anderson because the benefits of the susceptor taught by Halpin would be even heating, which is desired also by Anderson.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caridad M. Everhart whose telephone number is 571-272-1892. The examiner can normally be reached on Monday through Fridays 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Smith can be reached on 571-272-1907. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C. Everhart
5-3-2004

C. Everhart
CARIDAD EVERHART
PATENT EXAMINER